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(54) Title: **DIAGNOSTIC AND THERAPEUTIC USE OF THE HUMAN HIF3ALPHA GENE AND PROTEINS FOR NEURODEGENERATIVE DISEASES**

(57) Abstract: The present invention discloses the differential expression of a gene coding for HIF3a in specific brain regions of Alzheimer's disease patients. Based on this finding, the invention provides a method for diagnosing or prognosticating a neurodegenerative disease, in particular Alzheimer's disease, in a subject, or for determining whether a subject is at increased risk of developing such a disease. Furthermore, this invention provides therapeutic and prophylactic methods for treating or preventing Alzheimer's disease and related neurodegenerative disorders using the HIF3a gene and its corresponding gene products. A method of screening for modulating agents of neurodegenerative diseases is also disclosed.

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